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PREDICTION OF NECK FLEXION BASED ON ANGLES OF A SMARTPHONE

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The text neck syndrome is becoming known as people start using their smartphones anytime, anywhere. A person's spine can be in trouble if it remains static for a long period of time with a load on it. Smartphones can handle many things on a small screen, so they can be used in a variety of situations. In particular, those situations can have a negative effect on the cervical spine. In this study, eighteen participants were recruited and their posture was analyzed. We used inertial measurement units (IMU) based motion analysis equipment (i.e., Noraxon MyoMotion) to determine the effect of smartphones on their posture when standing or sitting. Each participant was asked to perform two tasks: reading the document and playing a specific game. In this process, information about the posture of each participant as well as the angle of the smartphone was collected. As a result of experiment, we could develop the relationship between posture of participants and angles of smartphones to induce participants posture according to angles of smartphones. This study is expected to be used as the basic data for the research related to the text neck syndrome.

Recent Publications

1. **Kim H K et al. (2018) Virtual reality sickness questionnaire (VRSQ): motion sickness measurement index in a virtual reality environment. Applied Ergonomics 69:66-73.**
2. **Kim H K et al. (2016) The interaction experiences of visually impaired people with assistive technology: A case study of smartphones. International Journal of Industrial Ergonomics. 55:22-33.**
3. **Kim H K et al. (2016) Identifying affect elements based on a conceptual model of affect: A case study on a smartphone. International Journal of Industrial Ergonomics. 53:193-204.**
4. **Park J (2016) Classifying weight training workouts with deep convolutional neural networks: A precedent study. MobileHCI Adjunct. Doi:10.1145/2957265.2961861.**
5. **Park J et al. (2015) Developing and verifying a questionnaire for evaluating user value of a mobile device. Human Factors and Ergonomics in Manufacturing & Service Industries. 25(6):724-739.**

Biography

Jaehyun Park is an Assistant Professor in the Department of Industrial and Management Engineering at Incheon National University (INU). He received B.S degree and Ph.D degree in Industrial and Management Engineering from POSTECH (Pohang University of Science and Technology). His research interests are user experience of products and services, computational cognitive engineering, and machine learning on physical behaviour.

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